MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/2023 (TERM ID 2210)

BAC 3674 – ADVANCED MANAGEMENT ACCOUNTING

(All Sections / Groups)

14th February 2023
9.00 am. – 12.00 pm.
(3 Hours)

INSTRUCTIONS TO STUDENT:

1. This Question paper consists of **6** pages (excluding cover page) with **4 Questions** only.
2. Answer **ALL** Questions. The distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

QUESTION 1

Best Makan Company manufactures and sells three styles of kitchen faucets: Brass, Chrome, and White. Production takes 25, 25, and 10 machine hours to manufacture 1,000-unit batches of brass, chrome, and white faucets, respectively. The following additional data apply:

	BRASS	CHROME	WHITE
Projected sales in units	30,000	50,000	40,000
PER UNIT data:			
Selling price	RM40	RM20	RM30
Direct materials	RM8	RM4	RM8
Direct labour	RM15	RM3	RM9
Overhead cost based on direct labour hours (traditional system)			
Hours per 1000-unit batch:			
Direct labour hours	40	10	30
Machine hours	25	25	10
Setup hours	1.0	0.5	1.0
Inspection hours	30	20	20

Total overhead costs and activity levels for the year are estimated as follows:

Activity	Overhead costs	Activity levels
Direct labour hours		2,900 hours
Machine hours		2,400 hours
Setups	RM465,500	95 setup hours
Inspections	RM405,000	2,700 inspection hours
	RM870,500	

Required:

a) Using the traditional system, compute the operating profit per unit for the brass, chrome and white faucets. *(Rounding up all calculations)*

(6 marks)

b) Show the activity-cost-driver rate for setup costs and inspection costs.

(2 marks)

c) Using the ABC system, compute the estimated operating profit per unit for the brass, chrome and white faucets.

(9 marks)

d) Based on your answer in (a) and (c) above, interpret the difference between the profits obtained from the traditional system and the ABC system. Which system provides a better estimate of profitability? Why?

(3 marks)

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e) Best Makan Company would like to reduce its spending on business operations. Discuss possible activities that this company may implement to reduce the costs.

(5 marks)

[TOTAL: 25 MARKS]

QUESTION 2

PART A

Rasa Gembira operates a small factory in which it manufactures two products: A and B. Production and sales result for last year were as follow:

	A	B
Units sold	8,000	16,000
Selling price per unit (RM)	65	52
Variable costs per unit (RM)	35	30
Fixed costs per unit (RM)	15	15

For purposes of simplicity, the firm allocates total fixed costs over the total number of units of A and B produced and sold.

The research department has developed a new product (C) as a replacement for product B. Market studies show that Rasa Gembira could sell 11,000 units of C next year at a price of RM80, and the variable costs per unit of C are RM39. The introduction of product C will lead to a 10% increase in demand for product A and discontinuation of product B. If the company does not introduce the new product, it expects next year's result to be the same as last year's.

Required:

Assess whether Rasa Gembira should introduce product C next year? Interpret your answer. Illustrate your decision by showing appropriate calculations.

(15 marks)

PART B

Komersial Bhd. is committed to its quality program. It works with all areas of the company to establish sound quality programs within reasonable budget guidelines. For 2023, it has budgeted RM1,000,000 for prevention costs and RM900,000 for appraisal costs. Internal failure has a budget of RM100 per failed item, while external failure has a total budget of RM600,000.

Product Testing has proposed to management a change in the 2023 budget for a new method of testing products. If management decides to implement the new method, RM1.50 per unit of appraisal costs will be saved, up to a level of 150,000 tests. No additional savings are expected past the 150,000 level. The new method involves RM95,000 in training costs and RM65,000 in yearly testing supplies.

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Traditionally, 5% of all completed items have to be reworked. External failure costs average RM120 per failed unit. The company's average external failures are 1% of units sold. The company carries no ending inventories.

Required:

a) Compute the adjusted budget for appraisal costs, assuming the new method is implemented and 800,000 units are tested during the manufacturing process in 2023.

(4 marks)

b) Show how much do internal failure costs change, assuming 500,000 units are tested under the new method and it reduces the number of unacceptable units in the manufacturing process by 40%.

(3 marks)

c) Compute the change in the external failure budget, assuming external failures are reduced by 60% and the same facts as in part (b).

(3 marks)

[TOTAL: 25 MARKS]

QUESTION 3

Ceria Camps is thinking about opening a new soccer camp. To start camp, Ceria would need to purchase land and build four soccer fields and a sleeping and dining facility to house 150 soccer players. Each year, the camp would be run for 8 sessions of 1 week each. The company would hire college soccer players as coaches. The camp attendees would be male and female soccer players ages 12—18. Property values in the area have enjoyed a steady increase in value. It is expected that after using the facility for 20 years, Ceria can sell the property for more than it was originally purchased for. The following amounts have been estimated.

	RM
Cost of land	300,000
Cost to build soccer fields, dorm and dining facility	600,000
Annual cash inflows assuming 150 players and 8 weeks	920,000
Annual cash outflows	840,000
Residual value	1,500,000
Estimated useful life	20 years
Discount rate	8%

Required:

a) Determine the net present value of the project.

(5 marks)

b) To gauge the sensitivity of the project to these estimates, assume that if only 125 players attend each week, annual cash inflows will be RM805,000 and annual cash outflows will be RM750,000. Estimate the net present value using this alternative. Interpret your findings.

(6 marks)

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c) Assuming the original facts, determine the net present value if the project is actually riskier than first assumed and an 10% discount rate is more appropriate. Interpret your findings.

(6 marks)

d) Assume that during the first 5 years, the annual net cash flows each year were only RM40,000. At the end of the fifth year, the company is running low on cash, so management decides to sell the property for RM1,332,000. Deduce the actual internal rate of return on the project. Explain how this return was possible given that the camp did not appear to be successful.

(6 marks)

e) What conflicts can arise between using discounted cash flow methods for capital budgeting decisions and accrual accounting for performance evaluation? Explain how these conflicts can be reduced.

(2 marks)

[TOTAL: 25 MARKS]

QUESTION 4

PART A

Tukang Sdn. Bhd. has two divisions. The Cutting Division prepares timber at its sawmills. The Coating Division prepares the cut lumber into finished wood for the furniture industry. No inventories exist in either division at the beginning of 2022. During the year, the Cutting Division prepared 60,000 cords of wood at a cost of RM720,000. All the lumber was transferred to the Coating Division, where additional operating costs of RM5 per cord were incurred. The 600,000 boardfeet of finished wood were sold for RM2,500,000.

Required:

a) Determine the operating income for each division if the transfer price from Cutting to Coating is at cost - RM12 a cord.

(7 marks)

b) Determine the operating income for each division if the transfer price is RM9 per cord.

(7 marks)

c) Since the Cutting Division sells all of its wood internally to the Coating Division, does the manager care what price is selected? Why? Should the Cutting Division be a cost centre or a profit centre under the circumstances? Explain.

(2 marks)

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PART B

Berita's Cellular Phone Company uses Return on Investment (ROI) to measure divisional performance. Annual ROI calculations for each division have traditionally employed the ending amount of invested capital along with annual operating income and net revenue. The company's Phone Accessories Division had the following results for the last two years:

	Annual income (RM)	**Net revenue (RM)**	**Invested capital (RM)**
2021	2,000,000	20,000,000	10,000,000
2022	2,400,000	25,000,000	15,000,000

Required:

a) Determine the company's ROI for the year 2021 and 2022 using the Dupont method.
(2 marks)

b) Corporate management was disappointed in the performance of the division for 2022, since it had made an additional investment in the division that was budgeted for a 23% ROI.

Describe some factors that may have contributed to the decrease in ROI for 2022.
(4 marks)

c) Would there have been any substantial difference if average capital had been used for the year 2022? Determine the new ROI and interpret your findings.
(3 marks)

[TOTAL: 25 MARKS]

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APPENDIX

TABLE 3 Present Value of 1

(n) Periods	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%
1	.96154	.95238	.94340	.93458	.92593	.91743	.90909	.90090	.89286	.86957
2	.92456	.90703	.89000	.87344	.85734	.84168	.82645	.81162	.79719	.75614
3	.88900	.86384	.83962	.81630	.79383	.77218	.75132	.73119	.71178	.65752
4	.85480	.82270	.79209	.76290	.73503	.70843	.68301	.65873	.63552	.57175
5	.82193	.78353	.74726	.71299	.68058	.64993	.62092	.59345	.56743	.49718
6	.79031	.74622	.70496	.66634	.63017	.59627	.56447	.53464	.50663	.43233
7	.75992	.71068	.66506	.62275	.58349	.54703	.51316	.48166	.45235	.37594
8	.73069	.67684	.62741	.58201	.54027	.50187	.46651	.43393	.40388	.32690
9	.70259	.64461	.59190	.54393	.50025	.46043	.42410	.39092	.36061	.28426
10	.67556	.61391	.55839	.50835	.46319	.42241	.38554	.35218	.32197	.24719
11	.64958	.58468	.52679	.47509	.42888	.38753	.35049	.31728	.28748	.21494
12	.62460	.55684	.49697	.44401	.39711	.35554	.31863	.28584	.25668	.18691
13	.60057	.53032	.46884	.41496	.36770	.32618	.28966	.25751	.22917	.16253
14	.57748	.50507	.44230	.38782	.34046	.29925	.26333	.23199	.20462	.14133
15	.55526	.48102	.41727	.36245	.31524	.27454	.23939	.20900	.18270	.12289
16	.53391	.45811	.39365	.33873	.29189	.25187	.21763	.18829	.16312	.10687
17	.51337	.43630	.37136	.31657	.27027	.23107	.19785	.16963	.14564	.09293
18	.49363	.41552	.35034	.29586	.25025	.21199	.17986	.15282	.13004	.08081
19	.47464	.39573	.33051	.27615	.23171	.19449	.16351	.13768	.11611	.07027
20	.45639	.37689	.31180	.25842	.21455	.17843	.14864	.12403	.10367	.06110

TABLE 4 Present Value of an Annuity of 1

(n) Payments	4%	5%	6%	7%	8%	9%	10%	11%	12%	15%
1	.96154	.95238	.94340	.93458	.92593	.91743	.90909	.90090	.89286	.86957
2	1.88609	1.85941	1.83339	1.80802	1.78326	1.75911	1.73554	1.71252	1.69005	1.62571
3	2.77509	2.72325	2.67301	2.62432	2.57710	2.53130	2.48685	2.44371	2.40183	2.28323
4	3.62990	3.54595	3.46511	3.38721	3.31213	3.23972	3.16986	3.10245	3.03735	2.85498
5	4.45182	4.32948	4.21236	4.10020	3.99271	3.88965	3.79079	3.69590	3.60478	3.35216
6	5.24214	5.07569	4.91732	4.76654	4.62288	4.48592	4.35526	4.23054	4.11141	3.78448
7	6.00205	5.78637	5.58238	5.38929	5.20637	5.03295	4.86842	4.71220	4.56376	4.16042
8	6.73274	6.46321	6.20979	5.97130	5.74664	5.53482	5.33493	5.14612	4.96764	4.48732
9	7.43533	7.10782	6.80169	6.51523	6.24689	5.99525	5.75902	5.53705	5.32825	4.77158
10	8.11090	7.72173	7.36009	7.02358	6.71008	6.41766	6.14457	5.88923	5.65022	5.01877
11	8.76048	8.30641	7.88687	7.49867	7.13896	6.80519	6.49506	6.20652	5.93770	5.23371
12	9.38507	8.86325	8.38384	7.94269	7.53608	7.16073	6.81369	6.49236	6.19437	5.42062
13	9.98565	9.39357	8.85268	8.35765	7.90378	7.48690	7.10336	6.74987	6.42355	5.58315
14	10.56312	9.89864	9.29498	8.74547	8.24424	7.78615	7.36669	6.98187	6.62817	5.72448
15	11.11839	10.37966	9.71225	9.10791	8.55948	8.06069	7.60608	7.19087	6.81086	5.84737
16	11.65230	10.83777	10.10590	9.44665	8.85137	8.31256	7.82371	7.37916	6.97399	5.95424
17	12.16567	11.27407	10.47726	9.76322	9.12164	8.54363	8.02155	7.54879	7.11963	6.04716
18	12.65930	11.68959	10.82760	10.05909	9.37189	8.75563	8.20141	7.70162	7.24967	6.12797
19	13.13394	12.08532	11.15812	10.33560	9.60360	8.95012	8.36492	7.83929	7.36578	6.19823
20	13.59033	12.46221	11.46992	10.59401	9.81815	9.12855	8.51356	7.96333	7.46944	6.25933

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